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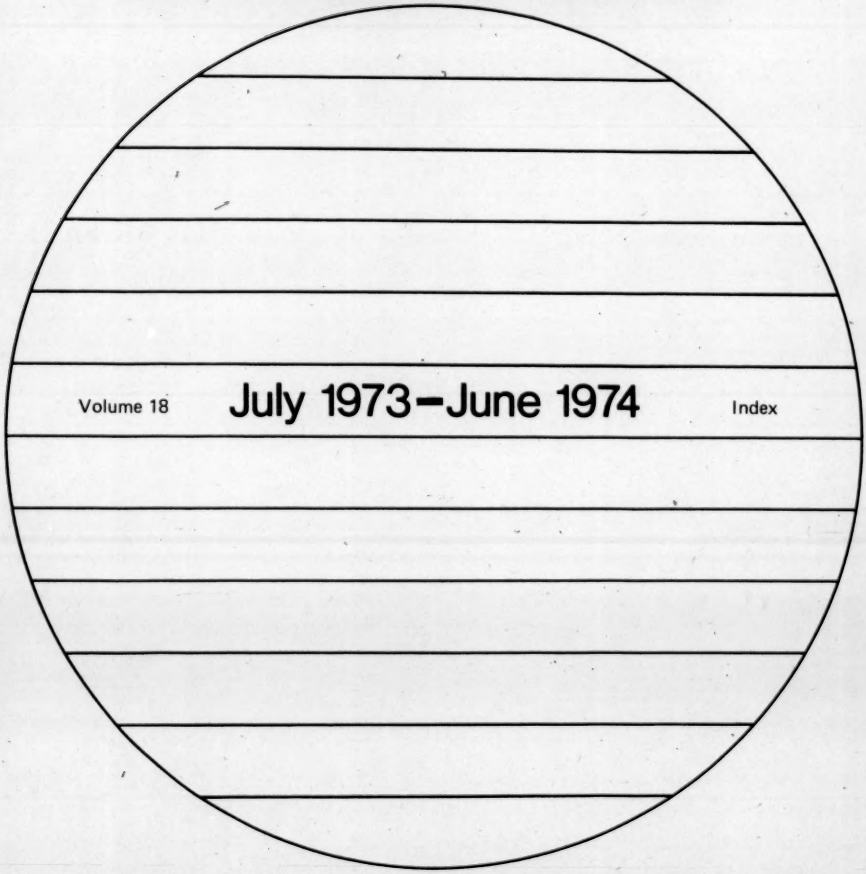

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## 42.30.– External flows

### 42.30.D Boundary layers

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### 42.30.N Jets

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## 42.45.– Aerodynamics and compressible flows

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## 42.60.+ Oscillations, waves, instabilities, and cavitation

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## 42.65.+ Magnetohydrodynamics and electrohydrodynamics

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# 43. PLASMA PHYSICS

## 43.40.– Plasma flow; magnetohydrodynamics

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## 43.45.– Plasma waves: oscillations and instabilities

### 43.45.D Linear waves and instabilities

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### 43.45.F Nonlinear waves and interactions

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### 43.45.M Plasma turbulence

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## 43.50.– Plasma production and heating

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### 43.80.M Arcs; sparks

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# 51. STRUCTURE OF LIQUIDS AND SOLIDS; CRYSTALLOGRAPHY

## 51.10.– Techniques for determination of lattice and defect structures

X–ray generation by collision of metallic bodies —L. I. Slabkii, L. A. Odnovol, and V. P. Kozenko. **18**(5), 325–6 (Nov. 1973); CPM-7311E1231

### 51.10.C Kinematical x–ray diffraction and scattering

Crystal structure of the Na–Sc germanate $Na_4Sc_2Ge_4O_{13}$ —Yu. A. Gorbunov, B. A. Maksimov, and Academician N. V. Belov. **18**(7), 461–3 (Jan. 1974); CPM-7401D0655

Crystal structure of a basic Na, Zn orthophosphate $NaZn_2[PO_4][PO_3(OH)]$ —Yu. K. Kabalov, M. A. Simonov, O. V. Yakubovich, and Academician N. V. Belov. **18**(10), 627–8 (Apr. 1974); CPM-7404E0409

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Degree of polarization of x radiation scattered by germanium crystals with various dislocation densities —N. M. Olekhnovich. **18**(11), 728–9 (May 1974); CPM-7405F0768

### 51.10.E Dynamical x–ray diffraction and scattering

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Algorithm for interpreting a real Patterson function by two arbitrary (multiple) peaks —E. A. Kuz'min, V. V. Ilyukhin, and Academician N. V. Belov. **18**(4), 208–10 (Oct. 1973); CPM-7310E1718

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### 51.10.N Inelastic–electron diffraction and scattering

Investigation of the substructure of a wurtzite–like modification of boron nitride —A. V. Kurdyumov, N. F. Ostrovskaya, A. N. Pilyankevich, and Academician I. N. Frantsevich. **18**(4), 268–9 (Oct. 1973); CPM-7310E1778

## 51.20.– Liquid structure and morphology

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## 51.40.– Amorphous and polymeric materials

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## 51.50.– Crystalline state (including molecular rotation in solids)

Analysis of the Patterson function. Vector subsystems corresponding to several multiple peaks (sets of isolated segments) —É. A. Kuz'min, Yu. N. Drozdov, V. V. Ilyukhin, and Academician N. V. Belov. **18**(3), 162–4 (Sep. 1973); CPM-7309D1490

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### 51.50.J Crystal morphology and crystal orientation

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### 51.50.Q Specific structures: other inorganic materials

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### 51.50.S Specific structures: organic materials

Crystal and molecular structure of the stable iminoxylorganosilicon tetraradical $C_{30}H_{32}O_4N_4Si_2$ —R. P. Shibaeva, L. O. Atovmyan, L. P. Rozenberg, and V. B. Stryukov. **18**(6), 364–6 (Dec. 1973); CPM-7312F1078

## 51.70.– Defects in crystals

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### 51.70.B Thermodynamic processes (formation, annealing, etc.)

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### 51.70.M Dislocations

Internal Stresses Produced by Dislocations in a Cylindrical Specimen after Cross Rolling —V. S. Smirnov, V. I. Vladimirov, K. T. Zhelyazkov, and B. V. Sadovnikov. **18**(2), 145–6 (Aug. 1973); CPM-7308D0337

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### 51.70.T Doping methods and implantation

Theory of atomic displacements in ion implantation —V. V. Yudin. **18**(11), 707–8 (May 1974); CPM-7405F0747

## 51.80.– Radiation damage and other irradiation effects

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### 51.80.P Ion implantation

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## 52. MECHANICAL AND ACOUSTIC PROPERTIES OF CONDENSED MATTER

## 52.20.– Mechanical properties of solids

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### 52.20.D Elasticity

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Anomalous variation of shear modulus in Fe–Mn alloys at low temperatures —L. I. Lysak, S. P. Kondrat'ev, Yu. N. Makogon, and B. I. Nikolin. **18**(6), 428–9 (Dec. 1973); CPM-7312F1142

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### 52.20.F Deformation and plasticity, including yield, ductility, and superplasticity

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### 52.20.M Brittleness, fracture, and cracks

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## 52.30.+ Mechanical and elastic waves

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## 52.40.+ Anelasticity, internal friction, and mechanical resonances

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## 52.50.+ High pressure effects in solids

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## 52.60.+ Acoustic properties of liquids

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## 52.90.+ Other topics in mechanical and acoustical properties of condensed matter

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# 53. LATTICE DYNAMICS

Structure of the Short–Range Order in Amorphous Germanium Obtained by Ion Bombardment —P. V. Pavlov. **18**(1), 15–6 (Jul. 1973); CPM-7307E0695

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# 54. EQUATIONS OF STATE, PHASE EQUILIBRIA, AND PHASE TRANSITIONS

## 54.50.+ Phase equilibrium diagrams

Determination of the Boundary of Fluorite–Like Solid Solutions of $Y_2O_3$ in $HfO_2$ —B. Ya. Sukharevskii, A. M. Gavrish, E. I. Zoz, and A. E. Solov'eva. **18**(2), 104–5 (Aug. 1973); CPM-7308D0296

Phase constitution and properties of metastable titanium—nickel alloys —S. G. Fedotov and N. F. Kvasova. **18**(4), 270–2 (Oct. 1973); CPM-7310E1780

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## 54.70.– General studies of phase transitions and critical points

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### 54.70.D Solid–liquid transitions

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### 54.70.F Liquid–vapor transitions

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### 54.70.K Solid–solid transitions

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## 54.80.– Other phase properties of systems

### 54.80.C Solubility, segregation, and mixing

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### 54.80.G Microstructure

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## 54.90.+ Other topics in equations of state, phase equilibria, and phase transitions

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# 55. THERMAL PROPERTIES OF CONDENSED MATTER

## 55.50.+ Thermodynamic properties and entropy

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## 55.90.+ Other topics in thermal properties of condensed matter

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# 56. TRANSPORT PROPERTIES OF CONDENSED MATTER (NONELECTRONIC)

## 56.20.+ Viscosity of liquids

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# 58. SURFACES AND INTERFACES; THIN FILMS AND WHISKERS

## 58.20.– Structure of surfaces and interfaces

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## 58.35.+ Mechanical and acoustic properties of surfaces and interfaces

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### 58.40.– Chemical reactions and surface treatment

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### 58.50.+ Thin film growth, structure, and epitaxy

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## 61. ELECTRON STATES

### 61.30.– Nonlocalized single–particle electronic states

Density of states calculation based on the x–ray emission spectra of silicon —V. V. Nemoshkalenko, V. G. Aleshin, M. T. Panchenko, and V. Ya. Nagornyi. **18**(5), 349–50 (Nov. 1973); CPM-7311E1255

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### 61.50.– Level splitting and interactions

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## 62. ELECTRONIC TRANSPORT IN CONDENSED MATTER

### 62.10.– Electronic conduction in metals and alloys

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### 62.20.– Conductivity phenomena in semiconductors and insulators

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### 62.90.+ Other topics in electronic transport in condensed matter

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## 63. ELECTRONIC STRUCTURE AND ELECTRICAL PROPERTIES OF SURFACES, INTERFACES, AND THIN FILMS

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## 64. SUPERCONDUCTIVITY

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## 65. MAGNETIC PROPERTIES AND MATERIALS

### 65.30.– Magnetically ordered materials, intrinsic properties

#### 65.30.C Saturation moments and magnetic susceptibility

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#### 65.30.G Magnetic impurity interactions

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### 65.30.J Critical point effects, specific heats, short-range order, and magnetic transitions, general

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### 65.60.– Domain effects, magnetization curves, and hysteresis

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### 65.90.+ Other topics in magnetic properties and materials

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## 66. MAGNETIC RESONANCE AND RELAXATION IN CONDENSED MATTER; MOSSBAUER EFFECT

### 66.30.– Electron spin resonance and relaxation

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### 66.50.+ Ferromagnetic, antiferromagnetic, and ferrimagnetic resonances; spin-wave resonance

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### 66.80.+ Mossbauer effect; other γ-ray spectroscopy

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## 67. DIELECTRIC PROPERTIES AND MATERIALS

### 67.20.+ Permittivity

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### 67.90.+ Other topics in dielectric properties and materials

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## 68. OPTICAL PROPERTIES AND CONDENSED-MATTER SPECTROSCOPY

### 68.70.– Other spectra and interactions between radiation and matter

Density of states calculation based on the x-ray emission spectra of silicon —V. V. Nemoshkalenko, V. G. Aleshin, M. T. Panchenko, and V. Ya. Nagornyi. **18**(5), 349–50 (Nov. 1973); CPM-7311E1255

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### 68.90.+ Other topics in optical properties of condensed matter

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## 6º. ELECTRON AND ION EMISSION BY LIQUIDS AND SOLIDS; IMPACT PHENOMENA

### 69.20.– Impact phenomena, including electron spectra and sputtering

#### 69.20.D Laser impact phenomena

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#### 69.20.M Atom, molecule, and ion impact: sputtering

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### 69.60.– Photoemission

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### 69.90.+ Other Topics in emission and impact phenomena in condensed matter

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## 71. OPTICS

### 71.30.– Information theory

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### 71.40.– Holography

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